DOCUMENT RESUME

ED 162 545 HE 010 539

AUTHOR Fendt, Paul Frederick
TITLE Alternative Futures for Adult and Continuing Education in North Carolina: A Delphi Futures Planning Study.
PUB DATE 22 Oct 78
NOTE 20p.; Paper presented at the First Meeting of the Education Section of the World Future Society (Houston, Texas, October 20-22, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Adult Education Programs; Adult Students; Educational Planning; Evaluation Methods; *Futures (of Society); Group Discussion; Higher Education; *Needs Assessment; Professional Continuing Education; *Program Planning; Questionnaires; *Research Methodology; Statewide Planning
IDENTIFIERS *Delphi Technique; North Carolina; Planning Methods

ABSTRACT

A North Carolina study attempted to evolve and test a futures planning methodology and generate useful program planning data to help meet the needs of adult part-time students. Using a variation of the Focus Delphi process, the study focused on the following question: considering the existing resources of higher and adult education in North Carolina and the educational needs of the adult population, what kinds of education futures are desirable and also possible for 1975-2000? Four panels of respondents were selected for the study: adult education faculty members, members of the State legislature and upper echelon officials of state and private universities, adult education practitioners from university extension divisions and continuing education departments, and continuing education students. Three rounds of Delphi questionnaries yielded consensus on the primary areas of concern for adult and continuing education, and divergence of opinion was also represented in the study. The study provided a demonstration of a planning tool for higher and adult education interests in North Carolina and indicated that further research along these lines would be profitable. (SW)

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ALTERNATIVE FUTURES

FOR ADULT AND CONTINUING EDUCATION IN NORTH CAROLINA:

A DELPHI FUTURES PLANNING STUDY

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by

Paul Frederick Fendt
The author is Clinical Assistant
Professor of Education
School of Education

and

Associate Director of Extension
Credit and Certificate Programs
University of North Carolina
Chapel Hill, NC

Edited by R. Lea Mitchell
Assistant Director of Extension
for the Evening College
University of North Carolina
Chapel Hill, NC

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Background

Adult part-time students are pursuing higher education in record numbers.

> In 1972, for the first time in American history, approximately half of the students (degree credit, non-degree credit, and noncredit) in collegiate institutions of higher education participated on a part-time basis. The rate of increase in numbers of collegiate part-time students between 1969 and 1972 was 3.5 times as great as for full-time students (35.3 vs. 10 percent).[1]

Adults are returning as part-time students for a variety of reasons. As knowledge becomes "dated" at an ever increasing rate, individuals require more frequent and more convenient access to the resources of continuing education.[2] As living and making a living become more complex in our society, adults rely upon the higher education system for needed knowledge, skills, and educational resources. Adults must cope with new job demands, changing careers, and a need for new insights in order to deal successfully with technological, scientific, and socio-economic change.

> Twenty-five years ago President Truman's Commission on Higher Education declared that the time had come to make higher education equally available to all. The pressures within American society which created universal secondary education . . . are today moving inevitably in the direction of universal higher post-secondary education.[3]

Demands on institutions of higher education could hardly be more challenging. Responding to these demands requires an unusual degree of comprehension, organization of knowledge, and expert application of educational (learning/teaching) principles. "The enormous shifts in modern

society imperil the liberties of each man unless he is able to sense the changes, comprehend them, act upon them, and learn how to bear with them."[4] The changes in our social milieu present ". . . a major challenge to all our institutions and perhaps especially to our colleges and universities."[5]

Problem

Expansion of the adult part-time student body places new importance and increased responsibility on the adult and continuing education components of North Carolina institutions of higher education.

As the adult education faculties educate leaders in their academic programs, and as continuing education practitioners program learning experiences in their extension activities, new methodologies are needed to plan for the adults' learning needs.[6] Educators from public elementary through university levels are searching for better planning tools to cope with the rapid pace of change and its pervasive significance for state residents as social beings. In order for North Carolina institutions of higher education to meet the complex task of planning for the future, new schemes must emerge which are designed from interaction between the institution and the society. "The real challenge point for the university . . . is how to devise and share some form of organization with society . . . ."[7]

In addition to the technical need for strategies to cope with change, professionals and citizens alike need a new philosophical orientation to the future (including the acceptance of the use of futures methodologies) so that the future becomes an opportunity and not a threat.

Purpose

All too often short-range and crisis-intervention strategies, rather than long-range human and societal-oriented strategies, are used to plan and develop Adult Education programs and systems. Frequently slogans and cliches are substituted for plausible theoretical systems as the foundation for planning processes.

In a 1976 futures study, this author attempted to create a series of long-range and "North Carolina society relevant" strategies. There were two study objectives:

(1) To choose, evolve, and test a process for adult and continuing education futures planning.

(2) To generate by this pilot model specific data useful in program planning for the institutions of higher education in North Carolina.

Rationale

The field of futures planning is still an emerging one despite one recent publication's listing of some twenty-three futures methodologies.[8] New procedures, new studies, and new designs for involving persons in futures planning[9] appear almost weekly. Still, the continuing need is for experimentation, refinement, and improvement in the techniques for futures planning.

Of the existing future planning methodologies, Delphi is one of the most popular. A large number of Delphi studies have been conducted with varying degrees of success and satisfaction with the data generated. Some modifications have already been made, and the Delphi process lends itself

to additional modifications to allow for new applications within the social structure where decisions or planning outcomes are being applied.

Delphi was selected as the futures planning process for the North Carolina study because it is flexible, because it takes many variables into consideration (such as minority opinion), because it can be used with other methods (such as trend extrapolation), and because it can be administered relatively inexpensively at a distance to a diverse public.

Delphi

The term "Delphi" comes from the oracle of Apollo at Delphi in ancient Greece. The Delphi futures technique originated in the late 1940's and early 1950's when the Rand Corporation sought to improve the answers given by groups of persons dealing with obscure or ambiguous issues.

Delphi is a variant of the panel or committee approach of arriving at consensus or majority opinion. Delphi methodology replaces direct discussion with a series of carefully controlled questionnaires. Results from the first questionnaire are tabulated; the edited opinions and new information thus gathered are returned to the participants on a second-round questionnaire. Additional questionnaire rounds (iterations) are added as needed or as specified by the research design. The final panel or committee report is then tabulated, and the Delphi researchers make interpretations and analyses in order to arrive at a series of forecasts, opinions, and, at times, scenarios. The Delphi process is characterized by three basic features:

(1) Anonymous responses;

(2) Iteration and controlled feedback;

(3) Statistical group response.
(Group opinion is defined as an appropriate aggregate of individual opinions on the final round of questionnaires.)

Since the 1950's and early 1960's, much research has focused on refinement of the Delphi process. Focus Delphi is a modification of original Delphi with the specific purpose of translating a forecasting tool into a device to assist planners, educators, and others who have similar futures goals. Focus Delphi differs from original Delphi more in the questions asked and the data dealt with than in the overall process. In Focus Delphi:

(1) Participants are drawn from each population and interest group affected.

(2) Each group has its own interquartile range.

(3) The questions in the final round deal with perceptions of power.

(4) The planner can therefore elicit not consensus but sustained divergence to aid in a planning assessment.

Methodology

In the North Carolina study, the researcher constructed a variation of the Focus Delphi process. The steps in this model are given below, followed by a description of the North Carolina study for each step.[10]

Step One

Develop a concise statement of objectives in a specific planning area. The statement should be acceptable to the person(s) responsible for the planning project.

The objectives of the North Carolina study were expressed in the form of this question: Considering the existing resources of higher and adult education in North Carolina and the educational needs of the adult population, what kinds of education futures are desirable, and also possible (1975-2000)?

Step Two

Identify the populations or groups who should be involved as parties to planning. These persons are of two types: (a) those who have direct responsibility for establishing planning outcomes, and (b) those who will be directly affected by the planning outcomes.

The North Carolina study considered the following elements of the state's population:

(1) Academic personnel with the responsibility of educating Adult Education practitioners.

(2) Individuals whose daily decisions influence educational outcomes in North Carolina. These included elected or appointed legal representatives and administrators of state institutions of higher education.

(3) Practitioners whose daily responsibility is to administer Adult and Continuing Education programs for the people of the state.

(4) The consumers of Adult and Continuing Education.

Step Three

Establish criteria for categories of panelists within these broad groups. Although there is no limit to the number of panels which may be created, it is important to adhere to clear and distinct panel definitions.

The North Carolina study design included four panels chosen to represent major responsible interests in North Carolina adult and continuing education.

(1) Adult education faculty members represented the educators of adult education practitioners.

(2) Members of the state legislature and upper echelon officials of state and private universities represented the decision makers.

(3) Members of university extension divisions and continuing education departments represented the practitioners.

(4) Continuing Education students represented the consumers.

Step Four

Outline the overall design of the research study. This procedure should take into account such considerations as (a) the amount of detail desired from the study, (b) the types of information on future events needed for planning purposes (for example, the timing, significance, and desirability of events), (c) the degree to which the study will deal with implementation of desired outcomes, (d) the number of rounds to be conducted, and (e) the means by which panelists may be encouraged to respond.

In North Carolina, the four selected groups described in Step Three above were each asked the study question (What educational futures are desirable and possible in North Carolina, 1975-2000?) in a systematic Delphi process employing three rounds of written iteration and feedback. No specific inducements to response (such as payment) were used.

Round One was the agenda building round where panelists chose a given topic and for that topic listed three possible future events.[11] Round Two

began the process of refinement of the Round One data. Round Two established a future timing for each event and asked panelists to rate each event for its significance and its desirability. Round Two also allowed for comments to explain extreme answers or to note needed institutional changes which the event might require. Round Three (the final round) gave each event that remained (low ranking Round Two events were dropped) a full page for the respondents' reactions. A summary of Round Two data was given, including the range of most probable dates, the mode or the most frequently given date, the percent marking the event "later," and the percent marking the event "never." A fifth item of feedback gave the panelist his/her "most probable" date estimate. Next panelists again rated an event's significance and desirability. Finally, panelists listed ways that desired events could be advanced or ways that undesired events could be kept from occurring.

Step Five

Prepare an introduction to futures planning for use prior to the first round of the survey. A written introduction, which should contain a carefully worded explanation of the futures planning process and a statement of the purposes of the study, is preferable to holding conferences among panelists at this point in the study.

The North Carolina study utilized a reaction form designed to begin the processes of thinking about educational futures for the state. An accompanying cover letter explained the purposes of the study and the place and importance of the participant in the study.

Step Six

Decide on the type of statistical analyses to be used. This decision will be shaped by the uses to which the results of the study will be put and on the nature and scope of the data generated.

In order to determine the stability of event responses by North Carolina panelists over time (i.e., did panelists rate the significance and desirability of events consistently on successive rounds, or were they "changing their minds" between rounds), a correlation was computed comparing the events of Round Two with the events of Round Three. Another correlation test determined separately the degree of relationship between the expected and the actual index of value (Round Three) for the significance and desirability factors.

Step Seven

Design the successive rounds of the study on the basis of a format in which panelists are to suggest outcomes to increasingly refined statements of situations. Conferences should be held just prior to the final round.

A significant feature of the process in the North Carolina study was the use of a modified Focus Delphi. Focus Delphi allows each panel to determine its own agenda and to modify its own events under the topics chosen. This feature of the process allows a majority and a minority point of view to be identified and to influence the planner. Minority views which may have been overlooked by the use of a single expert panel in the original Delphi method are now incorporated into the outcomes of the study. (Conferences were not held in the North Carolina study, although as a result of the study they are recommended prior to the final round.)

Step Eight

Conduct a pretest of the survey instrument.

A pretest of the Round One instrument for the North Carolina study was conducted among a selected group of adult educators. Twenty-two adult education faculty members were chosen to receive the pretest. Based upon the pretest, a number of technical changes were made to improve wording, to re-group the agenda items, and to simplify the coding on the data sheet. With these changes the Round One instrument was considered complete. Note that only the first round could be tested since the Focus Delphi process allows each panel to develop its own Round Two and Round Three instruments. Therefore, the steps involved in carrying the North Carolina study from pretest through collection of data are given in the overall research design (Step Four above).

Outcomes

Each of the four panels of North Carolina participants produced its own set of terminal events. It should be noted that it is important in Focus Delphi for each panel to evolve its own peculiar set of topics and illustrative events so that planners may know where responsible elements of the planning process agree and where they disagree. The panels' results are given below by topics. The specific events are not included here due to their detail and length.

Panel One: Adult Education Faculty Members

There were a total of eighteen events on Round Three of Panel One. Events ranked in the top 50 percent were listed under the following topics:

lifelong learning and the learning process (2 events)
family, divorce, and sexual behavior
nontraditional education institutions (3 events)
jobs, careers, and career change
adult education models

Since Panel One members were adult education faculty from various adult education curricula within the state, it is understandable that five of the top nine events dealt with "lifelong learning" and "nontraditional educational institutions."

Panel Two: Members of the State Legislature and Top Officials of State and Private Universities

Panel Two ended its rounds with a total of seventeen events. Events ranked in the top 50 percent were:

family, divorce, and sexual behavior
jobs, careers, and career change
conflicts in community and society
lifelong learning and the learning process
government and the people (2 events)
law and order
older citizens
health

Some Panel Two members had legislative offices in North Carolina, which may account for the two events under the topic "government and the people." It must be noted, however, that Panel Four members (adult education students) also ranked "government and the people" highly.

Unique events on Panel Two included: "conflicts in community and society," "health," and "centralization and decentralization."

Panel Three: Adult Education Practitioners and Administrators

Panel Three included eighteen events in its final round. Those events which rank in the top 50 percent were:

nontraditional educational institutions (5 events)
jobs, careers, and career change (2 events)
lifelong learning and the learning process
leisure
family, divorce, and sexual behavior

Perhaps the most unique outcome for Panel Three (adult education practitioners) was the heavy emphasis (5 events) on "nontraditional educational institutions."

Panel Four: Continuing Education Students

Panel Four had the fewest final events on Round Three, with a total of sixteen. The top 50 percent of events on Panel Four were listed under the following topics:

jobs, careers, and career change
population growth (2 events)
older citizens
family, divorce, and sexual behavior
government and the people
human valuing and value change

Panel Four members were adult education students (clients) who gave their highest priority to "jobs, careers, and career change" on Round Three. "Population growth" had two highly ranked events to underline its importance as an area needing attention and proper planning in adult and continuing education programming. Heavy emphasis (ranked second) was also given on "government and the people." Panel Four was alone in an emphasis upon "funding for adult education." Although the relative rank for this item was not high, it did remain an emphasis on the final round.

Events Common to All Four Panels

The following events were common to all four panels. The first four were common by design, that is, they were worded the same for research purposes. The remaining events were common but did not have identical wording on Round Three:

nontraditional educational institutions
jobs, careers, and career change
family, divorce, and sexual behavior
law and order

government and the people
older citizens
lifelong learning and the learning process

It would be safe to assume that the above topics are the common emphasis of the study and that the events listed under them should receive first priority for future programming in adult and continuing education efforts in North Carolina to the year 2000.

Consensus and Divergence of Opinions

Panel rankings from most change to least change between Rounds Two and Three were as follows:

Panel Two - Most Change
Panel Four
Panel Three
Panel One - Least Change

Panels Three and One changed in relation to the other panelists with whom they were most closely associated. Panel One represented adult education faculty while Panel Three represented adult education practitioners and administrators. It can be suggested, therefore, that adult education faculty and continuing education practitioners are the most alike (least changed), while legislators and students are the most different (most changed).

Concomitant Results

Included in the outcomes were date estimates indicating the outer time limits for a possible event to occur. Each event also received an evaluative rating indicating its importance to the future along with an evaluative rating on the desirability of the event. Comments on institutional or resource allocation changes which would be needed in order to bring the event into realization were part of the final outcomes. In addition, project participants suggested ways to advance desirable events or retard undesirable ones.

Recommendations

The North Carolina study provided a demonstration of a planning tool for higher and adult education interests in North Carolina and indicated that further research along these lines would be profitable. In additional research, special attention should be given to the following recommendations:

(1) A conferencing session prior to the final round of the study should be included if possible.

(2) The range of topics chosen for study should be narrow enough in focus to insure clear and unambiguous event statements.

(3) The Focus Delphi groups chosen should be distinct.

(4) The prospective panelists should agree to serve on the panels prior to commencing the study. It is possible that payment, telephone calls, or other incentives would help lower panel attrition.

Application of Outcomes

Results from the North Carolina study have practical application in adult and continuing education programming. For example, the information gained can be put to use in the department of Independent Study by Extension.

This department, a part of the Extension Division of the University of North Carolina, provides correspondence courses and other individualized learning experiences.

In budgeting money for course writing, the Independent Study staff note that the topic "family, divorce, and sexual behavior" was indicated by all panels for the year 1980 (i.e., the topic will emerge in importance by 1980). The department's limited course writing monies must be carefully allocated, but a course on this subject will be given high priority for production by 1980.

It is of particular interest that Panel Four (students) rank this event highest. The Independent Study staff feels that heavy emphasis should be given to persons with the characteristics of Panel Four members. When talking with a prospective author for a course in "family, divorce, and sexual behavior," the Independent Study staff will examine panelists' comments to gain insight into some cognitive elements which might be helpful to course presentation.

Summary

The growing numbers of adult part-time students place heavy demands on post-secondary institutions. Better planning strategies are needed for adult programming. The North Carolina study attempted to evolve and test a futures planning methodology, thereby generating useful program planning data. Using a Focus Delphi variation, the researcher investigated the question: Considering the existing resources of higher and adult education in North Carolina and the educational needs of the adult population, what kinds of education futures are desirable and also possible (1975-2000)?

Four panels of respondents were selected for the study: (1) adult education faculty members, (2) members of the state legislature and upper echelon officials of state and private universities, (3) adult education practitioners from university extension divisions and continuing education departments, and (4) continuing education students.

Three rounds of Delphi questionnaires yielded consensus that the following topics are the primary areas of concern for adult and continuing education during 1975-2000:

nontraditional educational institutions
jobs, careers, and career change
family, divorce, and sexual behavior
law and order
government and the people
older citizens
lifelong learning and the learning process

Divergence of opinion was also represented in the study.

The study provided a demonstration of a planning tool for higher and adult education interests in North Carolina and indicated that further research along these lines would be profitable. Application of the study results may be made immediately in adult and continuing education programming in North Carolina.

NOTES

[1]National University Extension Association "Special Report," I, No. 2, March, 1974. Reprinted by NUEA from the National Commission on the Financing of Postsecondary Education and the American Council on Education's Committee on the Financing of Higher Education for Adult Students.

[2]"Overall, a substantial increase from 1972-1973 of 17 percent in student contact hours, 41.8 percent in participants, and 21.8 percent in participations is shown." "Statistical Report: Continuing Education for the Health Professions, July 1, 1973--June 30, 1974," Office of Continuing Education in Health Sciences, Division of Health Sciences, the University of North Carolina at Chapel Hill. The quotation is from page 9 of this report which summarized the continuing education participation of dentists, physicians, nurses and pharmacists at Chapel Hill.

[3]Arland F. Christ-Janer in The Expanded Campus, Current Issues in Higher Education, edited by Dyckman W. Vermilye (San Francisco: Jossey-Bass, Inc., 1972), p. 160.

[4]Paul A. Miller, "The University and Civic Competence," Urban Studies Advisory Council, The University of North Carolina, Chapel Hill, N.C., December 14, 1972.

[5]Ibid.

[6]"The California Joint Committee on Postsecondary Education has received $150,000 to contract for a feasibility study on the establishment of nontraditional learning programs as a 'fourth segment' of public postsecondary education."

"A New York State Department of Education study on 'The Education of Adults in the Last Quarter of the Twentieth Century' is now in progress. The study will explore future educational requirements of adults and address public policy issues growing out of these educational requirements. The first phase of the project is scheduled to take one year and will include three components: (1) agenda setting to refine and sharpen the issues to be studied; (2) information collection to gather relevant materials from all sources; and (3) action plans to develop recommendations for changes in public policy, plans for specific Education Department action, and topics for further study. Norman Kurland is the study director and will be reporting directly to the Commissioner of Education in New York State."

Quotations are from the National University Extension Association Newsletter, VII, No. 21, October 25, 1974.

[7]Miller, "The University and Civic Competence."

[8]Stephen P. Hencley and James R. Yates, Futurism in Education (Berkeley, California: McCutchan Publishing Corporation, 1974), see pp. 12-16.

[9]Hanberry, Gerald C. Inventing the Future, Participatory Planning Process for Alternative Futures. Unpublished workbook. College Park, Maryland: University of Maryland, University College, Conference and Institute Division, 1975.

[10]Fendt, Paul F., North Carolina Adult and Continuing Education Futures Study. Doctoral Dissertation. Chapel Hill, North Carolina: University of North Carolina Extension Division, 1976.

[11]Topics are utilized in the study on iterations (rounds) as general subject categories and may include one or more sub-categories per topic. Events are the sub-categories of topics which become specific future outcomes for the iterations.

[12]Hanberry, Inventing the Future, Participatory Planning Process for Alternative Futures, the introduction to the first round of the study (reaction form) was developed with the aid of Dr. Hanberry, see pp. 54-56.